

Exhibit B



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CENTRAL REEXAMINATION UNIT

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. 90/011,233.

PATENT NO. 5,831,669.

ART UNIT 3992.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/011,233	09/14/2010	5,831,669		2185

116 7590 11/23/2011

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EXAMINER

ART UNIT

PAPER NUMBER

DATE MAILED: 11/23/2011

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action in Ex Parte Reexamination	Control No. 90/011,233	Patent Under Reexamination 5,831,669
	Examiner HENRY N. TRAN	Art Unit 3992

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

- ☒ Responsive to the communication(s) filed on 02 September 2011. b ☒ This action is made FINAL.
☐ A statement under 37 CFR 1.530 has not been received from the patent owner.

shortened statutory period for response to this action is set to expire 2 month(s) from the mailing date of this letter.
 Failure to respond within the period for response will result in termination of the proceeding and issuance of an *ex parte* reexamination
 certificate in accordance with this action. 37 CFR 1.550(d). **EXTENSION'S OF TIME ARE GOVERNED BY 37 CFR 1.550(c).**
 If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days
 will be considered timely.

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892. 3. ☐ Interview Summary, PTO-474.
 2. ☐ Information Disclosure Statement, PTO/SB/08. 4. ☐ _____.

Part II SUMMARY OF ACTION

- 1a. ☒ Claims 1-3,7-11 and 21-56 are subject to reexamination.
 1b. ☒ Claims 4-6 and 12-20 are not subject to reexamination.
 2. ☐ Claims _____ have been canceled in the present reexamination proceeding.
 3. ☐ Claims _____ are patentable and/or confirmed.
 4. ☒ Claims 1-3,7-11,21,22,24-26 and 28-56 are rejected.
 5. ☒ Claims 23 and 27 are objected to.
 6. ☐ The drawings, filed on _____ are acceptable.
 7. ☐ The proposed drawing correction, filed on _____ has been (7a) ☐ approved (7b) ☐ disapproved.
 8. ☐ Acknowledgment is made of the priority claim under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some* c) ☐ None of the certified copies have
 1 ☐ been received.
 2 ☐ not been received.
 3 ☐ been filed in Application No. _____.
 4 ☐ been filed in reexamination Control No. _____.
 5 ☐ been received by the International Bureau in PCT application No. _____.
 * See the attached detailed Office action for a list of the certified copies not received.
 9. ☐ Since the proceeding appears to be in condition for issuance of an *ex parte* reexamination certificate except for formal
 matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte* Quayle, 1935 C.D.
 11, 453 O.G. 213.
 10. ☐ Other: _____

Requester (if third party requester)

Patent and Trademark Office

466 (Rev. 08-06)

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DETAILED ACTION

Ex Parte Reexamination

I. PROCEDURES GOVERNING REEXAMINATION

1. THIS ACTION IS MADE FINAL.

Patent owner's amendment filed 09/02/2011 necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

A shortened statutory period for response to this action is set to expire 2 from the mailing date of this action.

Extensions of time under 37 CFR 1.136(a) do not apply in reexamination proceedings. The provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Further, in 35 U.S.C. 305 and in 37 CFR 1.550(a), it is required that reexamination proceedings "will be conducted with special dispatch within the Office."

Extensions of time in reexamination proceedings are provided for in 37 CFR 1.550(c). A request for extension of time must be filed on or before the day on which a response to this action is due, and it must be accompanied by the petition fee set forth in 37 CFR 1.17(g). The mere filing of a request will not affect any extension of time. An extension of time will be granted only for sufficient cause, and for a reasonable time specified.

The filing of a timely first response to this final rejection will be construed as including a request to extend the shortened statutory period for an additional month, which will be granted even if previous extensions have been granted. In no event, however, will the statutory period

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for response expire later than SIX MONTHS from the mailing date of the final action. See MPEP § 2265.

II. SUMMARY OF THE REEXAMINATION PROCEEDINGS

2. A Request pursuant to 37 CFR 1.510 for ex parte reexamination of the U.S. Patent No. 5,831,669 (the '669 patent) issued to Adrain was filed on September 14, 2010 by the third party requester.
3. An Order granting reexamination for claims 1-3 and 7-11 of the '669 patent was mailed on December 10, 2010.
4. A Non-Final Office Action mailed on June 03, 2011 rejecting claims 1-3 and 8-11 under 35 U.S.C.102(b) as being anticipated by Netravali et al. (U.S. Patent No. 4,611,347) (Netravali), and rejecting claims 7 under 35 U.S.C. 103(a) as being unpatentable over Netravali in view of Hwang et al. (U.S. Patent No. 5,425,108) (Hwang).
5. A Personal Interview was conducted on July 27, 2011 discussing the features and/or limitations, such as: digital cameras, pixel comparisons, a thermal camera, and thermal image, etc., as described in the '669 patent disclosure. See *id.*, the *Ex Parte Reexamination Interview Summary* filed 07/27/2011.
6. A Patent owner's Amendment filed August 03, 2011 and a subsequent Supplemental Amendment filed on September 02, 2011 in compliant with the Rule 248 has been entered; and Patent owner's remarks have been fully considered with the results as follows.

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III. STATUS OF CLAIMS

7. The following is the status of the claims with respect to the request filed on September 14, 2010 and the latest patent owner's amendment filed on September 02, 2011 (hereinafter referred to as the "Response").

a) Claims 1-3 and 7-11 have been amended; and claims 21-56 are newly added. Claims 1-3, 7-11, and 21-56 are therefore pending; and they are examined in this re-examination. Claims 4-6 and 12-20 of the '669 patent claims 1-20 are not subject to re-examination.

b) Claims 1-3, 7-11, 21, 22, 24-26, and 28-56 are rejected under, either alone or a combination thereof, 35 U.S.C. 101 (Double patenting), 35 U.S.C. 112 1st and 2nd paragraphs, 35 U.S.C. 103(a), as discussed follows.

c) Claims 23 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

IV. REFERENCES RECITED BY THE EXAMINER.

8. The prior art patents, hereinafter "the references", relied upon and cited by the third party requester, and used by the Examiner, as follows:

a) U.S. Patent no. 4,611,347 to Netravali et al. ("Netravali") issued September 9, 1986.

b) U.S. Patent No. 5,425,108 to Hwang et al. ("Hwang") issued June 13, 1995.

c) U.S. Patent No. 5,097,328 to Boyette issued March 17, 1992.

d) U.S. Patent No. 4,603,390 to Mehdipour et al. issued July 29, 1986.

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All of these references qualify as prior art under 35 U.S.C. § 102(b).

V. RESPONSE TO ARGUMENTS

9. Patent owner's arguments provided in pages 16-19 of the September 02, 2011 Supplemental Amendment with respect to the amended claims 1-3 and 8-11, and new claims 21-56 have been considered but are moot in view of the new grounds of rejection discussed herein follows.

VI. RELEVANT STATUTES - CLAIM REJECTIONS

10. *Double Patenting*

A. *Double Patenting Rejection*

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

a) Claim 49 is objected to under 37 CFR 1.75 as being a duplicate of claim 50. When two claims in an application are duplicates or else are so close in content that they both cover the

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same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claims 49 and 50 are duplicated; and are repeated herein below for comparison:

<p>49. (new) A monitoring system comprising:</p> <p>a movably mounted camera adapted for receiving images of a space to be monitored;</p> <p>an interpreter for receiving image data from the camera;</p> <p>a reference memory for storing reference image data;</p> <p>a comparator connected for comparing image data from the interpreter to image data from the reference memory according to selected comparison criteria, wherein the interpreter and comparator cooperate to select recognizable portions of image data among unrecognized portions of image data in the space being monitored, the selected image portions being compared to the image data in the reference memory to detect movement of an object; and</p> <p>an output interface for reporting results of the image data comparisons performed by the comparator.</p>	<p>50. (new) A monitoring system comprising:</p> <p>a movably mounted camera adapted for receiving images of a space to be monitored;</p> <p>an interpreter for receiving image data from the camera;</p> <p>a reference memory for storing reference image data;</p> <p>a comparator connected for comparing image data from the interpreter to image data from the reference memory according to selected comparison criteria, wherein the interpreter and comparator cooperate to select recognizable portions of image data among unrecognized portions of image data in the space being monitored, the selected image portions being compared to the image data in the reference memory to detect movement of an object; and</p> <p>an output interface for reporting results of the image data comparisons performed by the comparator.</p>
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b) Claims 51 and 52 are objected to under 37 CFR 1.75 as being a duplicate of claims 53 and 54, respectively. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper

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after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claims 51-52 and 53-54 are duplicated; and they are repeated herein below for comparison:

<p>51. (new) A monitoring system comprising:</p> <p>a first movably mounted camera adapted for receiving images of a space to be monitored;</p> <p>a second camera adapted for receiving additional images of the space;</p> <p>an interpreter for receiving image data from the first and second cameras;</p> <p>a reference memory for storing reference image data;</p> <p>a comparator connected for comparing image data from the interpreter to image data from the reference memory according to selected comparison criteria, wherein the interpreter and comparator cooperate to select recognizable portions of image data among unrecognized portions of image data in the space being monitored, the selected image portions being compared to the image data in the reference memory; and</p> <p>an output interface for reporting results of the image data comparisons performed by the comparator.</p> <p>52. (new) A monitoring system as in claim 51, wherein</p>	<p>53. (new) A monitoring system comprising:</p> <p>a first movably mounted camera adapted for receiving images of a space to be monitored;</p> <p>a second camera adapted for receiving additional images of the space;</p> <p>an interpreter for receiving image data from the first and second cameras;</p> <p>a reference memory for storing reference image data;</p> <p>a comparator connected for comparing image data from the interpreter to image data from the reference memory according to selected comparison criteria, wherein the interpreter and comparator cooperate to select recognizable portions of image data among unrecognized portions of image data in the space being monitored, the selected image portions being compared to the image data in the reference memory; and</p> <p>an output interface for reporting results of the image data comparisons performed by the comparator.</p> <p>54. (new) A monitoring system as in claim 53, wherein</p>
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said image data represents three dimensional images.	said image data represents three dimensional images.
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c) Claim 55 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 56.

When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claims 55 and 56 are substantially duplicated; and are repeated herein below:

<p>55. (new) A monitoring system comprising:</p> <p>a movably mounted camera adapted for receiving images of a space to be monitored;</p> <p>an interpreter for receiving image data from the camera;</p> <p>a reference memory for storing reference image data;</p> <p>a comparator connected for comparing image data from the interpreter to image data from the reference memory according to selected comparison criteria,</p> <p>wherein the interpreter and comparator cooperate to select recognizable portions of image data among unrecognized portions of image data in the space being monitored, the selected image portions being compared to the image data in the reference memory by determining a correlation between</p>	<p>56. (new) A monitoring system comprising:</p> <p>a movably mounted camera adapted for receiving images of a space to be monitored;</p> <p>an interpreter for receiving image data from the camera;</p> <p>a reference memory for storing reference image data for plural images and</p> <p>a comparator adapted for comparing image data from the interpreter to image data for the plural images from the reference memory according to selected comparison criteria,</p> <p>wherein the interpreter and comparator cooperate to select recognizable portions of image data among unrecognized portions of image data in the space being monitored, the selected image portions being compared to the image data in the reference memory by determining a correlation between</p>
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pixels; and an output interface for reporting results of the image data comparisons performed by the comparator.	pixels; and an output interface for reporting results of the image data comparisons performed by the comparator.
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Although the functional language recited in claim 56 is slightly different than that of claim 55. However, no structural difference between the two apparatus claims is defined or described anywhere in the claims and/or the disclosure. They are therefore considered as “substantially duplicated”. Different apparatus claims must be structurally different from one another. See MPEP 2114.

11. *Claim Rejections - 35 USC § 112*

A. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

B. Claims 21, 24, 25, and 29-48 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

i) Regarding claims 21 and 25, each recites the limitation: “wherein said digital camera is adapted to receive images using a non-visible electromagnetic field” in lines 1-3, which has no written description and/or clear support in the specification. Particularly, the claim term “a non-visible electromagnetic field” is found nowhere in the ‘669 patent disclosure.

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Although the '669 patent disclosure does provide the supports for the "other cameras" by describing that: (i) "other cameras are also suitable, such as analog or infrared", see *id.*, col. 3, lines 18-21; and (ii) "Different types of cameras ... For example, a thermal camera ...A radar camera", see *id.*, col. 6, lines 10-19.

However, it is well known in the art that the cameras that uses a non-visible electromagnetic field and/or an electromagnetic wave comprising ultraviolet, x-rays, and gamma rays, which are now inherently recited in the claim subject matter, which were not described in the specification. Only infrared camera, thermal camera, and radar camera have written description support in the specification.

ii) Regarding claims 24 and 29, each recites the limitation: "... images for identifying a type of said additional vehicle" in lines 8-9, which has no written description and/or clear support in the specification.

iii) Regarding claims 30-48, each recites the limitation: "a movably mounted camera adapted for receiving images of a space to be monitored by detecting a non-visible electromagnetic field" in lines 2-4 of base claims 30 and 45, [*underlined emphasis added by the Examiner*], which has no written description and/or clear support in the specification. Particularly, the claim term "a non-visible electromagnetic field" is found nowhere in the '669 patent disclosure.

Although the '669 patent disclosure does provide the supports for the "other cameras" by expressly describing that: (i) "other cameras are also suitable, such as analog or infrared", see *id.*,

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col. 3, lines 18-21; and (ii) "Different types of cameras ...For example, a thermal camera ...A radar camera", see *id.*, col. 6, lines 10-19.

However, the cameras that uses a non-visible electromagnetic field and/or an electromagnetic wave comprising ultraviolet, x-rays, and gamma rays, which are now inherently recited in the claim subject matter, which were not described in the specification.

Only infrared camera, thermal camera, and radar camera have written description support in the specification.

C. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

D. Claims 21, 24, 25, and 29-48 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

i) Regarding claims 21 and 25, which are apparatus claims depending base claims 1 and 11, respectively; each of claims 21 and 25 recites the limitation "wherein said digital camera is adapted to receive images using a non-visible electromagnetic field." in lines 1-3. There is insufficient antecedent basis for this limitation in the claims and/or the specification because the claim term "a non-visible electromagnetic field" was not described in the specification, see also the rejection recited in item 11.A.B.(i) above.

ii) Regarding claims 24 and 29, each recites the limitation: "... and also include images for identifying a type of said additional vehicle." in lines 7-9. There is insufficient antecedent basis for this limitation in the claims and/or the specification.

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iii) Regarding claims 30-48, each recites the limitation: “a movably mounted camera adapted for receiving images of a space to be monitored by detecting a non-visible electromagnetic field” in lines 2-4 of base claims 30 and 45. There is insufficient antecedent basis for this limitation in the claims and/or the specification, see also the rejection recited in item 11.A.B. (iii) above.

12. Claim Rejections - 35 USC § 103

A. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

B. Claims 1-3, 7-11, 28, 49-50, and 55-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Netravali (U.S. Patent no. 4,611,347) in view of Hwang (U.S. Patent No. 5,425,108), hereinafter referred to as “Netravali – Hwang”.

Regarding claim 1, Netravali teaches a monitoring system (an object recognition system) comprising:

a camera 203 connected to a frame buffer 102 with image analog to digital (A/D) converter, or image digitizer 202, adapted for receiving images of a space to be monitored for outputting digital image data, see *id.*, Figs. 1 and 2, col. 2, lines 42-44, col. 2, line 63 to col. 3, line 6, and col. 3, lines 27-37; an interpreter 104 for receiving said digital image data from the camera (Netravali teaches a feature analyzer 104 of the system controller 204 connected to image digitizer A/D 202 via Multibus 208 for receiving said digitized images), see *id.*, Fig. 2, col. 2,

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lines 42-46, and col. 2, line 63 to col. 3, line 6; a reference memory 106 for storing reference image data (Netravali teaches an associated attribute memory 106 for storing “reference patterns”), see *id.*, Figs. 1 and 2, and col. 2, lines 46-50; a comparator 105 connected for comparing image data from the interpreter to image data from the reference memory according to selected comparison criteria, wherein the interpreter and comparator cooperate to select recognizable portions of image data among unrecognized portions of image data in the space being monitored, the selected image portions being compared to the image data in the reference memory (Netravali further teaches that: (i) the feature analyzer 104 computes a set of global and local features for each region of the image, see *id.*, col. 2, lines 46-48, (ii) based on those computed features, several reference patterns stored in the associated attribute memory 106 are selected, see *id.*, col. 2, lines 48-49, and (iii) by using two-dimensional correlation, or template matching, an iconic matcher 105 of the image processor 206 connected to the controller 204 and the program memory 205 via Multibus 208 for comparing the features of the region against the selected reference patterns whose features most closely match those of the region are recognized for establishing a degree of correspondence to each of the reference patterns), see *id.*, Figs. 1, 2, 4-6, and 8, col. 2, lines 42-62, and col. 4, lines 10-52; and an output interface for reporting results of the image data comparisons performed by the comparator, see *id.*, Fig. 4, and col. 4, lines 37-52.

However, Netravali does not teach expressly that the camera is a movably mounted digital camera.

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Hwang teaches a monitoring system comprising a camera 2 mounted on a movable or detachable camera holder support 21 mounted in a car for monitoring and/or identifying a license plate number, see *id.*, Fig. 1, col. 1, lines 45-52, and col. 2, lines 25-49.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to: (i) integrate separate parts, the camera 203 and the A/D converter 202, shown in Fig. 2 of Netravali as a single unit for producing a digital camera, and (ii) mount said digital camera on a movable or a detachable camera holder support 21 mounted in a car as taught by Hwang for producing the claim invention because of: (i) integrating or combining prior art elements, e.g., the frame buffer 102 having an A/D converter 202 with the camera 203, as shown in Fig. 2 of Netravali, as a single unit for producing a digital camera, is simple and easy to carry out; and it is a known technique for producing a digital camera capable of providing an enhance ability to perform images processing, such as pan and scroll operations, or storing and retrieving images, using digitized images data, see *id.*, Netravali, col. 2, lines 42-46, and col. 3, lines 12-15; and (ii) by mounting the digital camera on a movable support, e.g., a vehicle, for producing an identification system capable of detecting and identifying a license plate in a mobile manner, see *id.*, Hwang, col. 1, lines 45-54.

By said rationale, claim 1 is rejected.

Regarding claim 2, Netravali – Hwang teaches all the claimed elements and limitations in claim 1 as discussed above. Netravali also teaches a programmer for inputting the comparison criteria to the comparator (Netravali also teaches that the image processor 206 comprising a programmable sequencer for controlling inputting of the features of each region of the image computed by the feature analyzer 104 and the selected reference patterns stored in the

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associated attribute memory 106 to the iconic matcher 105 for comparisons), see *id.*, Netravali, Figs. 1, 2 and 9, and col. 2, lines 51-55, and col. 3, lines 16-27.

Regarding claim 3, Netravali – Hwang teaches all the claimed elements and limitations recited in claims 1 and 2 as discussed above. Netravali further teaches that the programmer is connected for inputting analysis criteria to the interpreter and the interpreter is adapted for analyzing the image data according to the analysis criteria (Netravali teaches that the image processor 206, which comprises the region isolator 103 and the iconic matcher 105, is connected to the feature analyzer 104 of the image processor 204 for inputting the normalized correlation R for comparing against a threshold, see *id.*, Netravali, Figs. 1, 2, 6 and 7, and col. 7, lines 8-19.

Regarding claim 7, Netravali – Hwang teaches all the claimed elements and limitations recited in claim 1 as discussed above. Hwang also teaches the monitoring system having a camera 2 mounted in a car for detecting and identifying a license plate, see *id.*, Fig. 1, col. 1, lines 45-52, and col. 2, lines 25-49.

Regarding claim 8, Netravali – Hwang teaches all the claimed elements and limitations recited in claim 1 as discussed above. Netravali further also teaches the record memory is adapted for storing information associated with the image data stored (Netravali teaches that the associated attribute memory 106 is adapted for storing offsets information associated with the reference patterns), see *id.*, Netravali, Figs. 1 and 2, col. 1, lines 42-54, and col. 2, lines 46-50.

Regarding claim 9, Netravali – Hwang teaches all the claimed elements and limitations recited in claim 1 as discussed above. Netravali further teaches that the interpreter selects images according to analysis criteria so that only the selected images are input to the comparator for comparison to reference images, see *id.*, Netravali, Figs. 2 and 3-7, and col. 2, lines 46-55.

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Regarding claim 10, Netravali – Hwang teaches all the claimed elements and limitations recited in claim 1 as discussed above. Netravali further teaches that the selected images represent only portions of a larger image, see *id.*, Netravali, col. 2, lines 42-50.

Regarding claim 11, Netravali teaches a monitoring system (an object recognition system) comprising:

a camera 203 connected to a frame buffer 102 with image analog to digital (A/D) converter, or image digitizer 202, adapted for receiving images of a space to be monitored for outputting digital image data, see *id.*, Figs. 1 and 2, col. 2, lines 42-44, col. 2, line 63 to col. 3, line 6, and col. 3, lines 27-37; an interpreter 104 for receiving said digital image data from the camera (Netravali teaches a feature analyzer 104 of the system controller 204 connected to image digitizer A/D 202 via Multibus 208 for receiving said digitized images), see *id.*, Fig. 2, col. 2, lines 42-46, and col. 2, line 63 to col. 3, line 6; a reference memory 106 for storing reference image data for plural images (Netravali teaches an associated attribute memory 106 for storing several reference patterns for plural image reference frames, see *id.*, Figs. 1-3, 6 and 8, col. 2, lines 46-50, and col. 3, lines 42-64; a comparator 105 adapted for comparing image data from the interpreter to image data for the plural images from the reference memory according to selected comparison criteria, wherein the interpreter and comparator cooperate to select recognizable portions of image data among unrecognized portions of image data in the space being monitored, the selected image portions being compared to the image data in the reference memory (Netravali further teaches that: (i) the feature analyzer 104 computes a set of global and local features for each region of the image, (ii) based on those computed features, several reference patterns stored in the associated attribute memory 106 are selected, and (iii) by using two-

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dimensional correlation, or template matching, an iconic matcher 105 of the image processor 206 compares the features of the region against the selected reference patterns whose features most closely match those of the region are recognized for establishing a degree of correspondence to each of the reference patterns), see *id.*, Figs. 1, 2, 4-6, and 8, col. 2, lines 42-62, and col. 4, lines 10-52; and an output interface for reporting results of the image data comparisons performed by the comparator, see *id.*, Fig. 4, and col. 4, lines 37-52.

However, Netravali does not teach expressly that the camera is a movably mounted digital camera.

Hwang teaches a monitoring system comprising a camera 2 mounted on a movable or detachable camera holder support 21 mounted in a car for monitoring and/or identifying a license plate number, see *id.*, Fig. 1, col. 1, lines 45-52, and col. 2, lines 25-49.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to: (i) integrate separate parts, the camera 203 and the A/D converter 202, as shown in Fig. 2 of Netravali, as a single unit for producing a digital camera, and (ii) mount said digital camera on a movable or a detachable camera holder support 21 mounted in a car as taught by Hwang for producing the claim invention because of: (i) integrating or combining prior art elements, e.g., the frame buffer 102 having an image analog to digital (A/D) converter 202 with the camera 203, is simple and easy to carry out; and it is a known technique for producing a digital camera capable of providing an enhance ability to perform images processing, such as pan and scroll operations, or storing and retrieving images, using digitized images data, see *id.*, Netravali, col. 2, lines 42-46, and col. 3, lines 12-15; and (ii) by mounting the digital camera on a

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movable support, e.g., a vehicle, for producing an identification system capable of detecting and identifying a license plate in a mobile manner, see *id.*, Hwang, col. 1, lines 45-54.

By said rationale, claim 11 is rejected.

Regarding claim 28, Netravali – Hwang teaches all the claimed elements and limitations recited in claim 11 as discussed above. Hwang also teaches the monitoring system having a camera 2 mounted in a car for detecting and identifying a license plate, see *id.*, Fig. 1, col. 1, lines 45-52, and col. 2, lines 25-49.

Regarding claims 49-50, Netravali teaches a monitoring system (an object recognition system) comprising:

a camera 203 connected to a frame buffer 102 with image analog to digital (A/D) converter, or image digitizer 202 adapted for receiving images of a space to be monitored for outputting digital image data, see *id.*, Figs. 1 and 2, col. 2, lines 42-44, col. 2, line 63 to col. 3, line 6, and col. 3, lines 27-37; an interpreter 104 for receiving said digital image data from the camera (Netravali teaches a feature analyzer 104 of the system controller 204 connected to image digitizer A/D 202 via Multibus 208 for receiving said digitized images), see *id.*, Fig. 2, col. 2, lines 42-46, and col. 2, line 63 to col. 3, line 6; a reference memory 106 for storing reference image data (Netravali teaches an associated attribute memory 106 for storing “reference patterns”), see *id.*, Figs. 1 and 2, and col. 2, lines 46-50; a comparator 105 connected for comparing image data from the interpreter to image data from the reference memory according to selected comparison criteria, wherein the interpreter and comparator cooperate to select

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recognizable portions of image data among unrecognized portions of image data in the space being monitored, the selected image portions being compared to the image data in the reference memory to detect movement of an object (Netravali further teaches that: (i) the feature analyzer 104 computes a set of global and local features for each region of the image, see *id.*, col. 2, lines 46-48, (ii) based on those computed features, several reference patterns stored in the associated attribute memory 106 are selected, see *id.*, col. 2, lines 48-49, and (iii) by using two-dimensional correlation, or template matching, an iconic matcher 105 of the image processor 206 connected to the controller 204 and the program memory 205 via Multibus 208 for comparing the features of the region against the selected reference patterns whose features most closely match those of the region are recognized for establishing a degree of correspondence to each of the reference patterns; wherein, X and Y offsets specifying an object identification, its distance from the position, orientation, view angle, etc., and the normalized correlation value $R(IJ)$ between two images $I(x,y)$ and $J(x,y)$ are used to detecting its movements or the changes of the template and/or the object), see *id.*, Figs. 1, 2, and 4-9, col. 2, lines 42-55, col. 3, lines 49-53, col. 4, lines 10-48, and col. 6, line 46 to col. 7, line 31; and an output interface for reporting results of the image data comparisons performed by the comparator, see *id.*, Fig. 4, and col. 4, lines 37-52.

However, Netravali does not teach expressly that the camera is a movably mounted camera.

Hwang teaches a monitoring system comprising a camera 2 mounted on a movable or detachable camera holder support 21 mounted in a car for monitoring and/or identifying a license plate number, see *id.*, Fig. 1, col. 1, lines 45-52, and col. 2, lines 25-49.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to mount the camera on a movable or a detachable camera holder support mounted in a car as taught by Hwang for producing the claim invention because it would provide an monitoring system capable of detecting and identifying an object in a mobile manner, see *id.*, Hwang, col. 1, lines 45-54.

By said rationale, claims 49 and 50 are rejected.

Regarding claims 55-56, Netravali teaches a monitoring system (an object recognition system) comprising:

a camera 203 connected to a frame buffer 102 with image analog to digital (A/D) converter, or image digitizer 202 adapted for receiving images of a space to be monitored for outputting digital image data, see *id.*, Figs. 1 and 2, col. 2, lines 42-44, col. 2, line 63 to col. 3, line 6, and col. 3, lines 27-37; an interpreter 104 for receiving said digital image data from the camera (Netravali teaches a feature analyzer 104 of the system controller 204 connected to image digitizer A/D 202 via Multibus 208 for receiving said digitized images), see *id.*, Fig. 2, col. 2, lines 42-46, and col. 2, line 63 to col. 3, line 6; a reference memory 106 for storing reference image data for plural images (Netravali teaches an associated attribute memory 106 for storing several reference patterns for plural image reference frames, see *id.*, Figs. 1-3, 6 and 8, col. 2, lines 46-50, and col. 3, lines 42-64; a comparator 105 connected for comparing image data from the interpreter to image data from the reference memory according to selected comparison criteria, wherein the interpreter and comparator cooperate to select recognizable portions of image data among unrecognized portions of image data in the space being monitored, the

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selected image portions being compared to the image data in the reference memory by determining a correlation between pixels (Netravali further teaches that: (i) the feature analyzer 104 computes a set of global and local features for each region of the image, see *id.*, col. 2, lines 46-48, (ii) based on those computed features, several reference patterns stored in the associated attribute memory 106 are selected, see *id.*, col. 2, lines 48-49, and (iii) by using two-dimensional correlation, or template matching, an iconic matcher 105 of the image processor 206 connected to the controller 204 and the program memory 205 via Multibus 208 for comparing the features of the region against the selected reference patterns whose features most closely match those of the region are recognized for establishing a degree of correspondence to each of the reference patterns; wherein, the correlations between pixels, e.g., pixels data of previous edge pixels, current edge pixel, and next edge pixel, are determined for detecting its movements or the changes of the template and/or the object), see *id.*, Figs. 1, 2, and 4-9, col. 2, lines 42-55, col. 3, lines 49-53, col. 4, lines 10-48, and col. 4, line 53 to col. 5, line 33; and an output interface for reporting results of the image data comparisons performed by the comparator, see *id.*, Fig. 4, and col. 4, lines 37-52.

However, Netravali does not teach expressly that the camera is a movably mounted camera.

Hwang teaches a monitoring system comprising a camera 2 mounted on a movable or detachable camera holder support 21 mounted in a car for monitoring and/or identifying a license plate number, see *id.*, Fig. 1, col. 1, lines 45-52, and col. 2, lines 25-49.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to mount the camera on a movable or a detachable camera holder support mounted in

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a car as taught by Hwang for producing the claim invention because it would provide an monitoring system capable of detecting and identifying an object in a mobile manner, see *id.*, Hwang, col. 1, lines 45-54.

By said rationale, claims 55 and 56 are rejected.

C. Claims 22, 26, and 51-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Netravali (U.S. Patent no. 4,611,347) in view of Hwang (U.S. Patent No. 5,425,108), hereinafter referred to as “Netravali – Hwang”, as applied to claims 1 and 11 above, and further in view of Boyette (U.S. Patent No. 5,097,328).

Regarding claims 22 and 26, Netravali – Hwang teaches all the claim elements and limitations recited in the base claims 1 and 11 as discussed above. However, Netravali and Hwang, either alone or in combination, fails to teach or suggest the use of an additional camera for receiving images.

Boyette teaches a monitoring system comprising least two cameras a first camera 102 and an additional camera 104 adapted for receiving images of a space to be monitor for outputting to the computer 110 for processing, see *id.*, Figs. 1 and 3, col. 2, lines 61-63, and col. 5, lines 38-40.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the additional camera as taught by Boyette with the movably mounted digital camera of the Netravali – Hwang’s monitoring system because this would provide an enhanced monitoring system capable of detecting changes of a defined space or sensing areas for improving the system performance.

By said rationale, claims 22 and 26 are rejected.

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Regarding claim 51, which comprise similar claim elements and limitations of claims 1 and 22 by rephrasing to recite the limitations: (i) “a movably mounted digital camera” of claim 1 as “a first movably mounted digital camera”, and (ii) “a second camera” of claim 22 as “a second camera”, and it is therefore rejected on the same basis set forth in claim 22 above.

Regarding claim 52, Netravali – Hwang in view of Boyette teaches all the claim elements and limitation of claim 51 as discussed above. Boyette does teaches the at least two cameras, the first camera 102 and the additional camera 104, adapted for receiving images of a space, which are read on the claim limitation “image data represents three dimensional images”, to be monitor for outputting to the computer 110 for processing, see *id.*, Figs. 1 and 3, col. 2, lines 61-63, and col. 5, lines 38-40. Claim 52 is therefore rejected on the same basis set forth in claim 51 above.

Regarding claims 53 and 54, which are duplicate of claims 51 and 52, respectively; and they are therefore rejected on the same reasons set forth for claims 51 and 52 above.

VII. ALLOWABLE SUBJECT MATTER

13. Claims 23 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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14. The following is an examiner's statements of reasons for the indication of allowable subject matter:

The present invention is directed to a monitoring system for detecting changes of a space. Each of the dependent claims 23 and 27 requires, *inter alia*, the uniquely distinct features: "said additional camera (13) is used with said digital camera (12) such that the received images are three-dimensional images", as recited in lines 1-3 of claim 23 or 27, and "wherein the interpreter and comparator cooperate to select recognizable portions of image data among unrecognized portions of image data in the space being monitored, the selected image portions being compared to the image data in the reference memory", as recited in lines 11-15 of base claims 1 or 11 (see Fig. 1); whereas, the closest prior art, the Mehdipour et al. patent (U.S. Patent No. 4,603,390), the Netravali et al. patent (U.S. Patent No. 4,611,347), the Boyette patent (U.S. Patent No. 5,097,328), the Hwang et al. patent (U.S. Patent No. 5,425,108) disclose conventional monitoring systems, either singularly or in combination, fails to teach or suggest the above identified distinct features of the claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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VIII. CONCLUSION

15. Submissions

In order to ensure full consideration of any amendments, affidavits or declarations, or other documents as evidence of patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be a final action, will be governed by the requirements of 37 CFR 1.116, after final rejection and 37 CFR 41.33 after appeal, which will be strictly enforced.

16. Litigation Reminder

The patent owner is reminded of the continuing responsibility under 37 CFR 1.565(a) to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving the '669 patent throughout the course of this reexamination proceeding. See MPEP §§ 2207, 2282 and 2286.

17. Amendment in Reexamination Proceedings

Patent owner is notified that any proposed amendment to the specification and/or claims in this reexamination proceeding must comply with 37 CFR 1.530(d)-(j), must be formally presented pursuant to 37 CFR 1.52(a) and (b), and must contain any fees required by 37 CFR 1.20(c). See MPEP § 2234 and 2250(IV) for examples to assist in the preparation of proper proposed amendments in reexamination proceedings.

18. Service of Papers

All correspondence related to this Ex Parte reexamination proceeding should be directed:

By EFS: Registered users may submit via the electronic filing system EFS-Web, at <https://sportal.uspto.gov/authenticate/authenticateuserlocalepf.html>.

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By Mail to: Mail Stop *Ex Parte* Reexam
Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By hand: Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Telephone numbers for reexamination inquiries:

Reexamination and Amendment practice: (571) 272-7703

Central Reexamination Unit (CRU): (571) 272-7705

Any inquiry concerning this communication or earlier communications from the examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

/Henry N Tran/
Henry Tran, PE
CRU - Art Unit 3992

Conferees:

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